

ABSTRACT

It is an object of the present invention to provide a chemical conversion coating agent which places a less burden
5 on the environment and can apply good chemical conversion treatment to all metals such as iron, zinc and aluminum.

A chemical conversion coating agent comprising:

at least one kind selected from the group consisting of zirconium, titanium and hafnium;

10 fluorine; and

an adhesion and corrosion resistance imparting agent, wherein said adhesion and corrosion resistance imparting agent is at least one kind selected from the group consisting of:

15 1 to 5000 ppm (metal ion concentration) of at least one kind of metal ion (A) selected from the group consisting of zinc ion, manganese ion and cobalt ion;

1 to 5000 ppm (metal ion concentration) of alkaline earth metal ion (B);

20 1 to 5000 ppm (metal ion concentration) of metal ion (C) of Group III in the periodic table;

0.5 to 100 ppm (metal ion concentration) of copper ion (D); and

25 1 to 5000 ppm (as a silicon component) of a silicon-containing compound (E).